DPR statement on 2001 fumigant monitoring results

April 5, 2002

The California Department of Pesticide Regulation today released a report on air monitoring for fumigants in two counties with high use during the fall of 2001. The California Air Resources Board conducted air sampling for methyl bromide and 1-3, Dichloropropene (1,3-D) in Monterey and Santa Cruz counties at DPR's request. Ambient air monitoring is part of an ongoing DPR initiative to assess the environmental impact of fumigants and determine whether regulatory measures are working as intended.

The 2001 air monitoring for methyl bromide coincided with introduction of new DPR regulations intended to better protect workers and others from short-term exposures. DPR has monitored applications of methyl bromide since 1993 and has imposed the nation's most stringent restrictions on the fumigant. DPR looked to the 2001 monitoring data to confirm whether the new restrictions aimed at short-term exposures are effective, and whether those measures also provide sufficient protection for seasonal exposures. (In a separate, federal action, most uses of methyl bromide will be phased out by 2005 due to concerns about ozone depletion in the upper atmosphere.) As in the previous year, the 2001 monitoring program also included the fumigant 1,3-D. In the mid-1990s, DPR established annual limits on 1,3-D to reduce potential health risks.

The two fumigants were monitored in Monterey and Santa Cruz counties at six sites from September 8 through November 8, 2001. Four, 24-hour samples were taken from each site weekly during the monitoring period. In addition, samples were collected for one week from a seventh "background site" in the City of Santa Cruz, chosen for its relative distance from methyl bromide field applications. A total of 177 samples were evaluated (after 19 samples were rejected due to equipment problems). All samples resulted in measurable detections of methyl bromide and 1,3-D.

In evaluating air-monitoring results, DPR scientists refer to reference concentrations identified in risk assessments. Reference concentrations indicate when further investigation of monitoring data is warranted; the values do not necessarily dictate regulatory action.

For methyl bromide, DPR has established a reference concentration level of 1 to 2 parts per billion (ppb) for average seasonal exposures. For one-day exposures, the reference concentration level is 210 ppb, on average, during a 24-hour period.

DPR's 2001 air monitoring data for methyl bromide showed one-day exposures fell far below the reference concentration. Compared to the 2000 data, seasonal averages declined at three monitoring sites, and one stayed the same. (The sixth site was new in 2001.) Five of the six sites showed seasonal averages above the 1-ppb reference concentration level. However, compared to the 2000 monitoring data, most monitoring sites showed significant declines for one-day and one-week average concentrations (ranging from 20 to 75 percent) in ambient air concentrations of methyl bromide in 2001. (See the attached table for site-by-site monitoring results.)

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For 1,3-D, DPR's reference concentration level for one-day exposures is 44 ppb; for seasonal exposures, 33 ppb. Air monitoring data for 1,3-D showed increased levels at most monitoring sites in 2001 -- for both one-day and seasonal exposures -- compared to the previous year. However, all samples fell well below the reference concentration levels.

In response to the report, DPR Director Paul E. Helliker issued the following statement:

"Last year, when DPR released the results of air monitoring for methyl bromide during the peak use season in 2000, we predicted that monitoring levels would fall in 2001. The results released today confirmed this. Levels of methyl bromide in ambient air have declined substantially. While we must analyze the data before reaching final conclusions, it appears that DPR regulations have effectively reduced exposures to methyl bromide. In addition, the continuing federal phaseout of methyl bromide -- a 50 percent reduction in supplies this year, and another 33 percent in 2003 -- is expected to have an increasing impact. These and other factors will be considered when DPR assesses its regulatory measures for methyl bromide later this spring. At the same time, DPR will monitor other fumigants to protect workers and others. While there are no practical substitutes for some fumigant uses, DPR will continue to support research and development of alternatives to maintain California's leadership in the production of food and fiber," said Helliker.

DPR scientists are now analyzing the air monitoring data, which was not adjusted for quality control or recovery rates. The California Air Resources Board report to DPR may be found online at www.cdpr.ca.gov. After pesticide use reports, sampling methodology, and other information are reviewed, DPR expects to complete its analysis by the end of May. A workshop will be held to allow public input before the analysis is finalized.

Four other 2001 fumigant monitoring reports are in various stages of completion. DPR expects to receive a report on Kern County monitoring for methyl bromide and 1,3-D early in May. Another Kern County fumigant monitoring report (for chloropicrin, metam sodium, and metam sodium breakdown products), and a separate report on those same fumigants in Monterey and Santa Cruz counties, are expected to be completed later this year. DPR also expects to receive a report on industry-sponsored methyl bromide monitoring in Santa Barbara and Ventura counties by the end of April.

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Summary of methyl bromide air monitoring results for Monterey and Santa Cruz

Location	Highest 1-Day Concentration (ppb)		Highest 1-Week Concentration (ppb)		Average Concentration for Study Period (ppb)	
	2000	2001	2000	2001	2000	2001
Chualar School, Chualar	2.4	1.8	1.6	1.2	0.6	0.6
La Joya Elementary School, Salinas	24.0	14.5	11.1	9.0	3.8	2.8
MacQuiddy Elementary School, Watsonville	Not sampled	36.6	Not sampled	13.4	Not sampled	5.5
Oak Avenue School, Greenfield	1.8	Not sampled	1.0	Not sampled	0.4	Not sampled
Pajaro Middle School, Watsonville	30.8	21.1	15.5	10.5	7.7	3.0
Ambient Monitoring Station, Salinas	7.9	9.2	3.0	6.2	1.3	1.4
Salsepuedes Elementary School, Watsonville	16.4	5.3	8.3	2.5	2.6	1.2
Fire Station, Santa Cruz	Not sampled	0.7	Not sampled	0.4	Not sampled	Not sampled
Reference Concentrations[b]						
Child	*250*	*250*	*70*	*70*	*1*	*1*
Adult	*210*	*210*	*120*	*120*	*2*	*2*

[a] The fire station in Santa Cruz was sampled for four days, Sept 24 - 27, 2001.

[b] DPR scientists refer to reference concentrations identified in risk assessments. Reference concentrations indicate when further investigation of monitoring data is warranted; the values do not necessarily dictate regulatory action.